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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,246	02/01/2001	David Robert Cameron Rolston	AP566US	4340
7590		07/15/2004	EXAMINER	
Thomas Adams		ALEXANDER, JESSE NELSON		
Thomas Adams & Assoc.		ART UNIT		
P.O. Box 11100, Station H		PAPER NUMBER		
Ottawa, ON K2H 7T8		2666		
CANADA		DATE MAILED: 07/15/2004		

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/773,246	ROLSTON ET AL.	
	Examiner	Art Unit	
	Jesse N Alexander	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-17 is/are allowed.
- 6) ☒ Claim(s) 18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06/26/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

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Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/3/2001</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: **step (iii) recites the limitation "plurality of nodes" in lines 1 through 2. This limitation should read "plurality of slave nodes".** Appropriate correction is required.
2. Claim 7 is objected to because of the following informalities: **the preamble of claim recites the limitation (at line 3) "first and second propagation paths" while body of the claim recites "propagation channels". It is suggested that all limitations be changed to recite "propagation channels."** Appropriate correction is required.

Specification

3. The disclosure is objected to because of the following informalities: **reference character "NZ" in line 3 or page 12 should be changed to "N2" to match the element designation in the Figure 3 of the drawings.** Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geannopoulos et al. (US 6,075,832). The reference discloses an apparatus for

Art Unit: 2666

synchronizing arrival times at a detection point (**see Fig. 2, element 100**) of pulses in two pulse trains traversing a detection point in opposite directions (**in Fig. 2, elements 30 and 40**), the apparatus comprising a plurality of delay units, comprising first pre-delay means and first post-delay (**Fig. 2, elements 400a & b, LEFT and RIGHT delay lines**) means disposed prior to, and following, respectively, the detection point (**Fig. 2, element 100**) in a first propagation channel whereby pulses of the first train traverse the detection point. Geannopoulos et al. also teaches a detection and control means for determining phase differences between pulses from first and second pulse trains and, adjusting the delay units selectively so as to reduce the phase differences to below a preset level in **Fig. 2, elements 100 and 200**.

Geannopoulos et al., however, does not teach a second pre-delay means and second post-delay means disposed prior to, and following, respectively, the detection point in a second propagation channel whereby pulses of the second train traverse the detection point.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Geannopoulos et al. apparatus to include detection and control for a second path in the opposite direction, the motivation being the support of clock distribution on counter-rotating, ring topologies.

Allowable Subject Matter

6. Claims 1 through 17 are allowed.

The following is an examiner's statement of reasons for allowance:

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Art Unit: 2666

7. Claims 1 and 7 are allowable over the prior art to of record since the cited references taken individually or in combination fail to particularly disclose a an apparatus or method of maintaining the rate of each of the first and second pulse trains such that there are "pn" pulses in each propagation channel at any time, where "n" is the number of nodes, including the master node, and "p" is an integer, the pulses of the first time of pulses arrive at respective ones of the plurality of slave nodes substantially simultaneously, and the pulses of the second train of pulses arrive at respective ones of the plurality of slave nodes substantially simultaneously; and at each of the slave nodes. It is noted that the closest prior art, Bennett (US Patent 5,550,875 A), embodies the use of delays that are on the order of the pulse period long (**Bennett column 4, lines 47 through 54**). In Bennett's network, a "replica" of the clock pulse would be exist after each delay associated with each clock node with the same edge timing as the source pulse; consequently, the number of pulses in the network would be equal to the number of nodes in the network. However Bennett fails to explicitly teach that result. Nor does Bennett teach the adjustment (or maintenance) of the pulse rate to achieve an integer number of pulses in the network proportional to the number of nodes in the network.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art listed below discloses processes, methods and/or devices that address claims in the application:

- US 4,539,678 Ambroise et al.
- US 5,550,875 Bennett
- US 5,901,136 Lovelace et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse N Alexander whose telephone number is (703) 305-8709. The examiner can normally be reached on 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (703) 308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jna


RICKY NGO
PRIMARY EXAMINER

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